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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/147,230	02/09/1999	LENNART OLSSON	2867-0134-2	1417

7590 12/30/2003

CHRISTOPHER F. REGAN
ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST, PA
P.O. BOX 3791
ORLANDO, FL 32802-3791

EXAMINER

NGUYEN, DUNG X

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 12/30/2003

23

Please find below and/or attached an Office communication concerning this application or proceeding.

Right there

Office Action Summary

Application No.

09/147,230

Applicant(s)

OLSSON ET AL.

Examiner

Dung X Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31 - 38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31 - 38, 44, and 46 - 53 is/are allowed.
- 6) ☒ Claim(s) 39 - 40, and 54 - 57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Arguments

1. Applicant's arguments filed on December 11, 2003 have been fully considered but not persuasive.

The parameter $Y_{n,k}$ shown in equations for estimating the argument function α_k must be supported by the original disclosure. Any parameter changing makes the result of the equation altered also.

Based on the above rationale, it is believed that the parameter $Y_{n,k}$ has changed the outcome of the argument function α_k .

Therefore, pages 2 – 4 of the Amendment filed on December 11, 2003 cannot be entered. Claims 1 - 30, 41 – 43, 45, and 58 have been cancelled. This action will be a FINAL Action.

Specification

2. The amendment filed on 11 December 2003 introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material, which is not supported by the original disclosure is as follows:

The parameter $Y_{n,k}$ is not shown and supported by the original disclosure as filed.

Claim Rejections - 35 USC § 112

3. The followings are quotations of the first paragraph and the second paragraph of 35 U.S.C. 112:

(1) The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claims 39, 40, and 54 - 57 are rejected** under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding to claims 39, 40, 54, and 55 the parameter $Y_{n,k}$ is not shown and supported by the original disclosure.

Allowable Subject Matter

5. **Claims 31 – 38, 44, and 46 – 53 are allowed.** The following is a statement of reasons for the indication of allowable subject matter:

Regarding to claim 31, the prior art of record fails to show or render obvious of a receiver for use in an OFDM transmission system in which data is transmitted in frames, each frame having a cyclic prefix, which is a repetition of part of the frame, the receiver comprising:

A sampling oscillator;

An adaptive equalizer having an equalizer inverse channel model;

Separation means for separating the equalizer inverse channel model into a first and a second part, the first part being independent of sample timing and the second part being dependent on sample timing; and

Control means for controlling the sampling oscillator based on the second part.

Regarding to claim 44, the prior art of record fails to show or render obvious of an OFDM transmission system in which data is transmitted in frames, each frame having a cyclic prefix, which is a repetition of part of the frame, the OFDM transmission system comprising:

A receiver comprising a sampling oscillator;

An adaptive equalizer having an equalizer inverse channel model;

A separation circuit for separating the equalizer inverse channel model into a first and a second part, the first part being independent of sample timing and the second part being dependent on sample timing; and

A controller for controlling the sampling oscillator in dependence on the second part.

Regarding to claim 46, the prior art of record fails to show or render obvious of an OFDM system in which data is transmitted in frames, each frame having a cyclic prefix, which is a repetition of part of the frame, and in which the receiver comprises an adaptive equalizer having a equalizer inverse channel model, a method of synchronizing a receiver sampling oscillator, the method comprising:

Separating the equalizer inverse channel model into a first and a second part, the first part being independent on sample timing and the second part being dependent on sample timing; and

Controlling a sampling oscillator based upon the second part.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Contact Information


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung X. Nguyen whose telephone number is (703) 305-4892. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Ghayour Mohammad H. can be reached on (703) 306-3934. The fax phone numbers for this group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800.

DXN

December 22, 2003


MOHAMMAD H. GHAYOUR
PRIMARY EXAMINER